# **AMERICAN WHITEWATER**

**Open-Source Signage Toolbox** 

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For more information visit www.uscgboating.org

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## **Contributors List**

The American Whitewater Open Source Signage Toolbox is supported by research and industry expertise of over 200  $\,$ individuals including safety professionals, paddlesports instructors, river trip leaders, private land owners, hydropower operators, public safety and drowning prevention experts, law enforcement, engineers, attorneys, and messaging and communications professionals. The following document has been developed to create a comprehensive signage and graphics program that will improve communication, safety, and awareness on all rivers.

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#### Introduction

American Whitewater has been recognized as the experts for whitewater safety for over 60 years and is actively called upon to provide input on safety messaging for signage at river access points across the country. It is vital that the valuable information the organization shares be supplied in a way that allows the message to come across clearly, ensures there is no visual confusion about the content, and that its communication serves a purpose and is noticed and accessible by river users.

Building an "open-source toolbox" that supplies designers and river managers with coherent signage elements and other visual assets that have consistent messaging, iconography and graphic elements will improve river safety and standardize resources and materials being used for river recreation sites. Supported by research and industry expertise, the following document has been developed to create a comprehensive signage and graphics program that will improve communication, safety, and awareness. This document was also developed to prevent, protect, and improve the items listed in the chart below.

Prevent	Protect	Improve
• Deaths	• Lives	Communication
Being stuck on the river	Natural Resources	<ul> <li>Connectivity</li> </ul>
Emergencies	• River	• Safety
Land-owner conflicts	Environment	Recreation Experience
Harm to river, wildlife, and the		Education
environment		Site Infrastructure
Unlawful and unsafe behavior at		River Health
the access sites		Stewardship
<ul> <li>Mistreatment of the river/sites</li> </ul>		·

There is currently a widespread use of inconsistent messaging and signage that negatively impacts a river user's understanding and familiarity with how they approach rivers. This project focuses on simplifying and creating consistent messaging for all river and safety information on river signage across the country. Similar to skiing/snowboarding and mountain biking, the purpose of this effort is to create a consistent messaging and signage system the users clearly understand, regardless of their location. Consistent messaging and signage are important so users become familiar with how they retain information. Once they become familiar with a system they will understand the messaging quickly and effectively, reducing the chance of them missing vital information that can help improve their safety and understanding of the river. The items in this project do not target campaign signage, marketing, or content since there are numerous campaigns that vary between the different states.

A collection of graphic symbols, pictograms, and illustrations have been developed to convey important river safety, recreation or instructional information. Graphics have been developed in a vector format that will provide a stock image library for designers and river mangers to use. Imagery has been identified in a clear and concise manner so that graphics are appropriately used for their intended purpose.

The document is designed so that anyone tasked with developing safety signs or graphic information has the content, imagery, and necessary quidelines to successfully implement a program and customize signage at their site.

The messages, symbols and graphics identified in this report are based on the research of existing signs, information and standards that are currently used to inform visitors about river usage. The current state of signage across the country includes an array of sign types, sizes, and configurations. Signs have been installed as singular efforts by river managers to address individual needs or requests. This piecemeal approach presents a disorganized and disorienting image of the sites and river systems in the country. A majority of the signage illustrates aged materials, lack of information and/or inconsistencies in structure, graphic display and placement.

Signs of all different sizes, shapes, colors and typefaces lessens the effectiveness of the signage to aid users in finding their way. The following signage conditions are consistent issues that are currently found at the majority of the sites across the country:

- Inconsistent terminology
- Disorganized and damaged signs create a lack of trust in the information presented
- Faded and discolored signs demonstrate neglect and express that the site is not cared for or consistently maintained
- Inconsistent mounting heights and placement does not allow the user to anticipate information
- Sizes of sign messages are either too small to be read or too large for the context
- Panel sizes vary and often times signs are too small for a user to notice
- Too much information is presented for a person to comprehend

- · Poor graphic layouts reduce legibility
- Mix of multiple sign systems at a single location
- Overgrown plants and trees cover-up or partially hide sign faces
- Little or no wayfinding or regulatory signage is present which impairs a user's ability to enjoy the site safely and responsibly
- Emergency response teams have trouble finding the access sites, due to lack of directional and identification signs
- · Users are unaware of the difficulty level, equipment, time, and location of put-in/takeouts along the river because no map or safety information is available on-site



















Examples of inconsistent messaging and signage

# **Explanation of Message & Symbol Chart**

The following pages contain charts with river safety messages and their associated pictogram/symbols. Below is an example of the message charts in the document. The row in yellow is the subject the messages are addressing. The rows in white include the preferred message(s) that were gathered from research and vetting. The Pictogram column on the right contains symbols and icons to be used along with the messages. The approximate messages and pictograms that are to be used in the development of signage are included in the toolbox.

Message	Pictogram
Obstruction / Debris	
Caution: Rocks, downed trees, and woody debris can easily trap rafts and tubes.	
Caution: River has natural and man-made obstacles that can trap boats.	
Caution: Downed trees can entrap swimmers and watercrafts.	

# **Signage Placement**

The items below describe various recommendations regarding the placement of safety signage in the environment. These considerations are meant to inform recreation planners, site planners, and river managers who may not be familiar with river running and the elements of sign location and placement that will most impact the outlined user group (kayakers, rafters, whitewater boaters, etc.).

#### 1. Access Points

Critical safety information and general details pertinent to a river corridor should be located at access points. This includes approaches and entrances to traditional boat launches such as docks and ramps and other userdeveloped social trails that provide access to rivers. In instances where signage cannot be located near the boat launch, it should be placed in an area that is highly visible for visitors preparing to access the river. It should be placed such that the face of the sign can be read by visitors entering the water and the backside can be read by visitors exiting the water. See signage placement examples demonstrating these principals below.



to Deadline Fall stretch of the North Umpqua River. Although the signage isn't placed directly adjacent to the river, it's highly visible in a clearing just before the developed access trail begins to funnel into a more restricted path. It's placed such that the face of the sign can be read by users potentially intending to enter the water. The signage is large and hard for users to miss. It falls easily in the line of sight as one approaches the path to the water.

Critical safety information and general river corridor signage is placed at the entrance to a river access point on the Soda Springs

North Umpqua River, OR



Critical Safety information and general river corridor signage for the Namekagon Dam to St. Croix River stretch on the Namekagon River is located at the boat launch and in this case, the water is visible from the signage. Signage is big and set back from the water such that users encounter the information before they reach the water's edge.

Namekagon River, WI



For the Snoqualmie Falls to Plum's Landing (Powerhouse) stretch on the Snoqualmie River, critical safety information and general river corridor details are widely visible on signage as users approach the water. The water is visible from the sign and users encounter the sign before they reach the water's edge.

#### 2. Change In River Difficulty

When a significant change in river difficulty occurs, a sign indicating that change may be warranted, particularly on river stretches where river character abruptly changes from class I or II to class IV or V. This sign should be visible to both users arriving at the access point and to boaters traveling downstream. All of the stipulations in Section 1: Access Points apply here with the additional requirement of clear visibility for boaters traveling downstream. See signage placement examples demonstrating these principals below.



A warning sign indicating a significant change in river difficulty at Kanasket-Palmer State Park. The sign is visible to users accessing the river from the park and to boaters traveling downstream. The sign is located near the water's edge.

Green River, WA



Deschutes River, OR

A warning sign indicating Dillon Falls ahead. The sign is double sided making it visible to users approaching the access point from the parking area as well as boaters traveling downstream. The sign is located near the water's edge.

#### 3. Other Unique Circumstances Requiring Signage

Signs placed directly on the river, with primary consideration given to boaters traveling downstream, are generally the exception rather than the rule. One reason for this is preservation of a pristine and natural river state should be a top priority wherever possible. This is especially the case in designated wilderness and Wild and Scenic River zones. Occasional situations occur where placing signs on the river shoreline may be appropriate. See signage placement examples demonstrating these exceptions below.

On highly trafficked rivers, particularly with less experienced paddlers or floaters, where an abrupt change in river difficulty occurs (e.g. from class I to class IV), a warning may be appropriate such as signage on the Niobrara River, NB and Cataract Canyon, Colorado River, UT. In the case of the Niobrara River, the river corridor is almost entirely class I, occasionally interrupted by a handful of scattered, more challenging rapids which many users choose to portage. For Cataract Canyon, the river profile transitions from a class I canoe multi-day trip to a class IV+ whitewater trip a short distance downstream of the confluence with the Green River. In both scenarios, caution and warning signage is important and warranted.



Niobrara River. NB



Cataract Canyon, Colorado River, UT

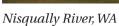
Where an infrastructure project such as bridge construction results in a hazard that is not typically present, see Wenatchee River, WA.



Wenatchee River, WA

Where temporary equipment is in the river, such as a fish counter, see Nisqually River, WA,







Nisqually River, WA

On a river corridor which is approaching a man-made hazard that is out of character with the rest of the river stretch, such as a low-head dam. Man-made hazards, such as low-head dams require a mandatory portage by river runners, see Dryden Dam on the Wenatchee River, WA.



Dryden Dam, Wenatchee River, WA

#### 4. Bridges

If signage will be placed directly on the river, consider bridges or other pre-existing infrastructure. Bridges are ideal locations for important wayfinding information (river mile, location name, approaching hazard or changing conditions) because they are already in place and signage is easily seen by boaters traveling downstream. Utilizing pre-existing infrastructure for signage rather than constructing something that would alter a new location on the river is in alignment with the principle of preserving a pristine and natural river state wherever possible.



Niobrara River, WA



Selway River, ID



Namekagon River, WI



Deschutes River, OR

#### 5. Campsites

Campsite location signs are sometimes useful on high use rivers but are generally discouraged in backcountry or wilderness settings.



Deschutes River, OR

# **LIFE JACKET SAFETY**



## **Life Jacket Safety Messages**

Providing visually consistent life jacket safety signage allows for river users to be properly notified and aware that they need to use a life jacket to improve their safety on the river. Properly signing for life jackets can help improve user awareness and reduce the amount of injuries and deaths that transpire.

Below are various examples of the recommended messages and graphics for life jacket safety signage. The different examples should be provided to land managers so they can determine which examples works best based on the location of the signs on the river/site.

#### **Examples**



1



2





3



of boating deaths are due to drowning

5



of drowning victims didn't wear a life jacket

6





**BE READY FOR THE** UNEXPECTED. **ALWAYS WEAR** YOUR LIFE JACKET!

7 8

# **CAUTION**



## **Caution - Explanation**

Consistent caution signage will provide visitors with vital safety information before they enter the river. Properly signing and using consistent shapes and colors about the items or events in the river will improve user awareness and reduce the amount of injuries and deaths that occur.

#### Color & Graphics Standards

In information graphics, the color yellow is commonly used on caution or warning signs. Organizations that use yellow for caution messages include the Department of Transportation (DOT), American National Standards Institute (ANSI), and the International Organization for Standardization (ISO). These organizations also associate the triangle shape with caution messages. The color yellow and triangle shape typically combined to reinforce the idea of caution. We recommend all caution messages and signage use the color yellow and triangle shape to identify any items in the river that visitors may need to be warned about before entering the river. Since this caution standard is already established by others it can help reinforce safety in the rivers.



Examples of caution colors and graphics

# **Caution - Messages**

Below is a list of caution messages and their associated symbols. In instances where pictograms don't exist some messages are better expressed simply through words and do not have a pictogram. The pictograms are designed to be consistent with traditional international and NPS symbols to create visual consistency.

Message	Pictogram
River Danger	
Caution: Be prepared and have proper equipment. Rivers can cause serious injury or death. Use at your own risk.	$\wedge$
Caution: Swift currents and river hazards require specialized training and equipment. Use at your own risk.	<u> </u>
Caution: River is not patrolled and rescue is difficult. Use at your own risk.	
Caution: River related activities can result in injury or death. Use at your own risk.	
Flood Warning	
Caution: Area is subject to flooding. Water may rise without warning.	<b>A</b>

# Currents Caution: Strong currents. Enter at your own risk. **Drowning** Caution: Danger of Drowning. Caution: Swift current. Swim at your own risk. Caution: Swift currents are a drowning hazard.

Message	Pictogram
Ramp Drop-Off	
Caution: Extreme drop-off at end of ramp.	and
Obstruction / Debris	
Caution: Rocks, downed trees, and woody debris can easily trap rafts and tubes.	
Caution: River has natural and man-made obstacles that can trap boats.	
Caution: Downed trees can entrap swimmers and watercrafts.	
Submerged Obstacles	
Caution: Submerged obstacles can entrap swimmers and watercrafts.	
Hypothermia	
Caution: Dress for cold water and changing weather.	
Caution: Dress for water temperature. Cold water can lead to death or injury.	

Message	Pictogram
Wildlife	
Danger alligators are present. No wading or swimming.  Danger crocodiles are present. No wading or swimming.	
Dangerous wildlife like alligators, bears, and snakes are present. Use caution.	A SU
Caution: Boaters can be injured by large sturgeon that jump in the river. Lower speed to reduce risk of impact.	
Rapids	
Caution: Rapids ahead.	<b>^</b>
Caution: Rapids ahead. Expert boaters only.	
Caution: Rapids ahead. Exit river on left (or right) bank and scout ahead.	<u></u>
Burned Areas	

Caution: Entering a Burned Area. Hazards may include falling trees, loose rocks, flash floods, and debris flow. Enter at your own risk.



# **Caution - Symbols**

Below are examples of the caution symbols used within the warning triangle shape/panel.



River Danger, Flood Warning, Rapids, and Burned Areas



Currents



**Drowning** 



Ramp Drop-Off



Ramp Drop-Off



Obstruction / Debris



Obstruction / Debris



Hypothermia



Crocodiles / Alligators



Bears



**Snakes** 



**Jumping Fish** 

## **Caution - Signage Panel Guidelines**

Below is a description of the guidelines for the different sign panels that can be used to identify the various caution messages & icons. The items below include a description for when to use the different sign panels, panel & type dimensions, and font.

#### **Single Message Sign Panel: Symbol Only**

This sign panel identifies one caution/safety message with no additional text. This panel should be used for caution areas that need to be quickly and simply identified.



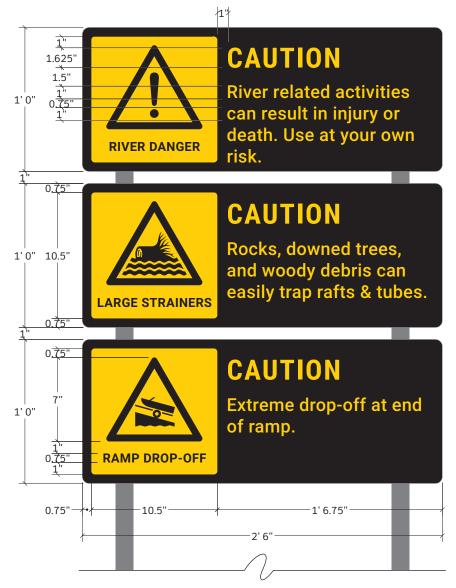
#### **Single Message Sign Panel: Symbol with Text**

This sign panel identifies one caution/safety message with additional text support. This panel should be used for caution areas that need additional explanation along with the standard caution/exclamation symbol. It can also be combined with unique symbols if additional text is needed for visitors. Foreign languages can also be used on this panel.



#### **Multiple Message Sign Panels: Symbol with Text**

These sign panels identify multiple caution/safety messages with additional text support. The sign panels are stacked and each panel identifies a caution/safety message. This panel should be used for areas with multiple caution/safety issues. Foreign languages can also be used on these panels.



# **Caution - Signage Panel Guidelines**

Below are multiple panel sizes that can be used for each of the different sign panels. The size of the panel should chosen based on the location and visibility of the sign panel in the environment.

#### Single Message Sign Panel: Symbol Only

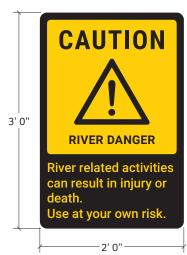






#### **Single Message Sign Panel: Symbol with Text**







#### **Multiple Message Sign Panels: Symbol with Text**

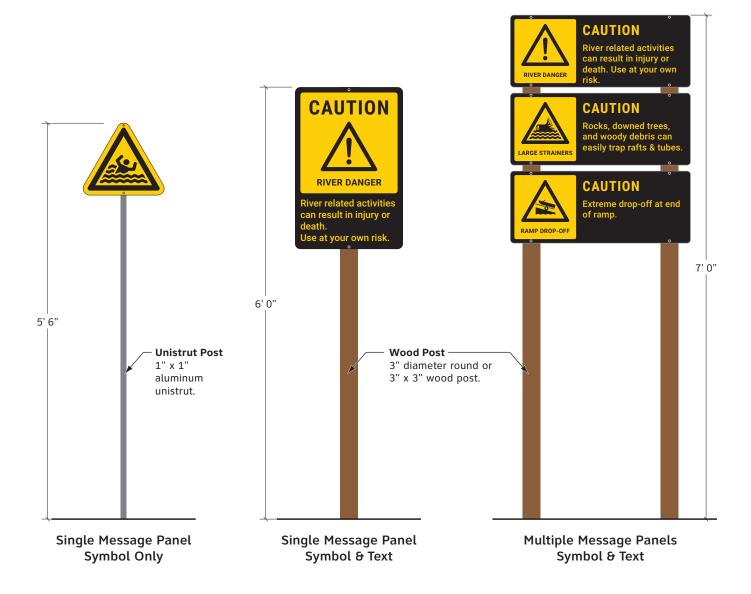




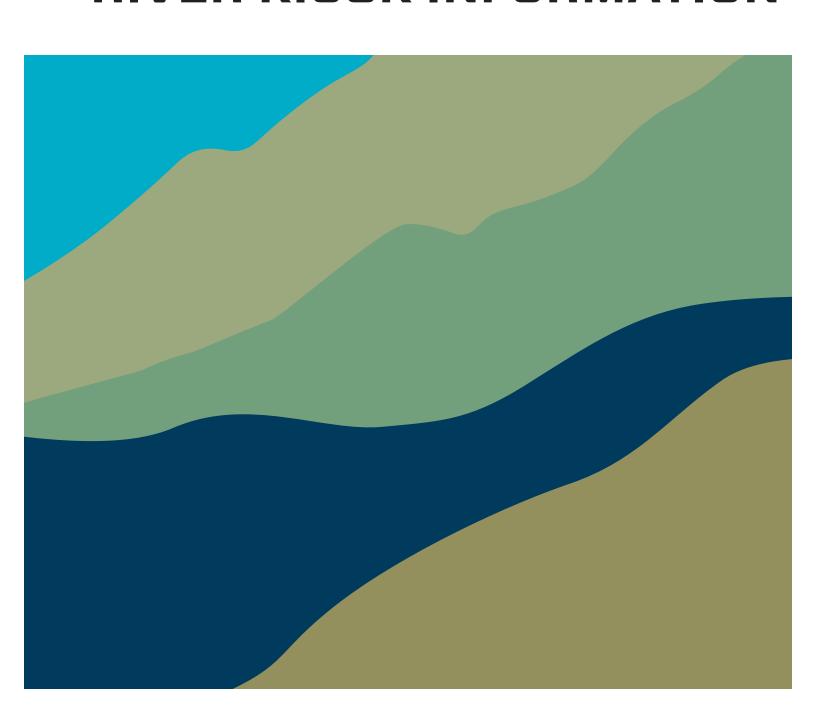


#### **Caution - Signage Structures**

Below are several examples of sign structures that can be used to hold the different sign panels. For the single message sign panels, we recommend using either a single aluminum unistrut or wood post (square or round). The panels should be front drilled into the posts with metal fasteners. We recommend the multiple message panels use two aluminum unistruts or wood posts (square or round) for greater stability of the multiple panels. Below are recommended heights for the sign panels and structures. The heights of the structures can change based on where they are located in the environment and if there are any obstructions that impact the visibility of the sign panels.



# **RIVER KIOSK INFORMATION**



#### **River Information Kiosk - Content**

A river information kiosk can provide vital information and graphics that properly prepare travelers before they enter the river. A majority of the information and graphics included on a kiosk are site specific. Because of this we could not develop standard messages or graphics due to of the varying information. Since a standard message or graphic could not be produced, the following content is shown as a list of items we recommend be included on the kiosk. The list of items should be provided to the land managers and used as a guide to help them develop their own river information kiosks. The nationwide information is not site specific and should be included on all kiosks, regardless of the river/location. The river specific information is content that will change between different rivers/locations.

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107070101		I O I - I O	T 0 1	15

#### **Nationwide Information**

Call 911 for All Emergencies

American Whitewater Contact Information and Website/QR code

#### **River Specific Information**

Map (see pages 23 & 24 for more details)

Site Manager/Owner/Agency Contact Information, Logo, and Website/QR code

Fish, Wildlife, & Boat Commission Contact Information, Logo, and Website/QR code

Local Emergency Contact Information

Non-Emergency Contact Information (Fire, EMS, Lost Items, Game & Fish Violations, etc.)

River Website/QR code (if applicable)

River Level/Flow Rate Information and/or Website/QR code

Site Name & Address (if applicable)

Federal Hydropower License Number (if applicable)

River Rules and Regulations

Longitude/Latitude Coordinates

**Emergency Notices** 

Local Resources (Outfitters, PDA Licenses, Aquatic Invasive Species [AIS], etc.)

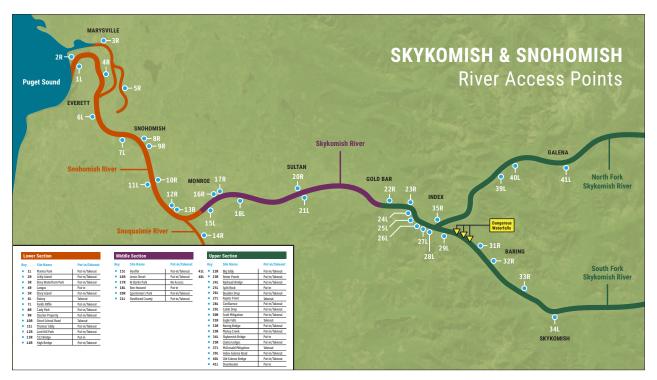
# **River Information Kiosk - Map Content**

All river information kiosks should include a map of the entire river and if applicable, a close-up section of the river where travelers are entering or exiting the river. Due to maps being site specific, we could not develop a standard graphic map because of the varying information and graphics. Since a standard map could not be produced, the following content is shown as a list of items we recommend be shown on the maps. The list of items should be provided to the land managers and used as guide to help them develop their own maps.

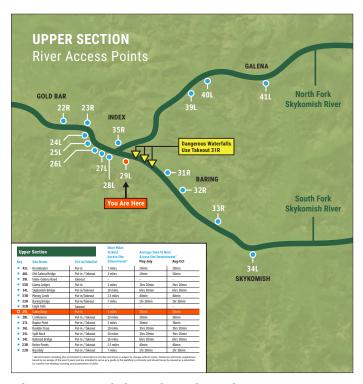
Items To Identify On Map
Put-In & Take-Out Locations
You Are Here Placement
River Name(s)
River Hazards (Dams, Low-Head Dams, Hydraulics, Waterfalls, Rapids [Include Class Rating as Appropriate], etc.)
Total River Length
River Distance to Next Access Site
Average Time to Next Access Site
Portage Routes (Entrance, Exit, and Trail)
River Flow Direction
Private Property Locations
Quiet Zone Locations
Campsites/Picnic Areas
Restrooms
Site Manager/Owner/Agency Property
Bridges
AED Locations
Legend (If symbols are used on map)
Parking Areas (indicate car, trailer, bus, overflow, etc. specific areas if applicable)
Parks/Trails
Evacuation Trails
Surrounding Roads, Cities/Towns, and Attractions

## **River Information Kiosk - Map Examples**

Below are examples of multiple map designs. Land managers are responsible for creating their own maps. The maps shown below are only provided as references to help land managers develop their maps. It is the Land Manager's responsibility to determine and evaluate what elements and information are included on their maps.



Overall Map: Skykomish-Snohomish River Project

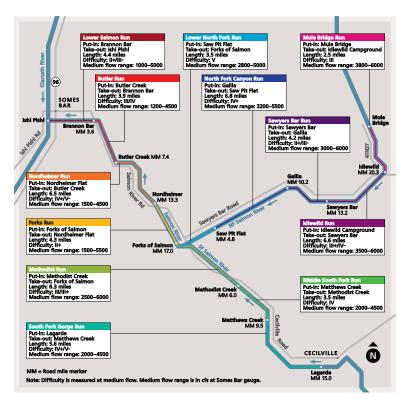


Close-Up Map: Skykomish-Snohomish River Project

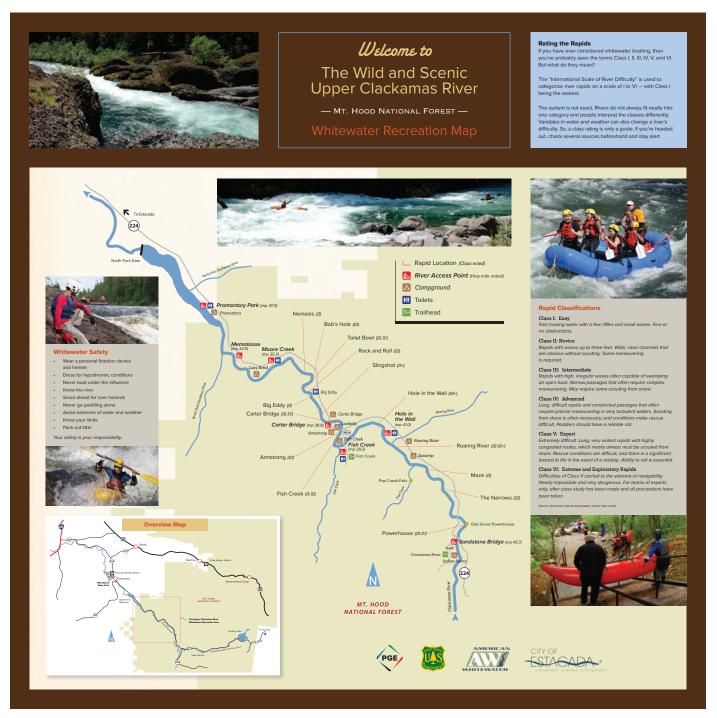
# **River Information Kiosk - Map Examples (Continued)**



Middle Fork of the Snoqualmie River, WA



# **River Information Kiosk - Map Examples (Continued)**

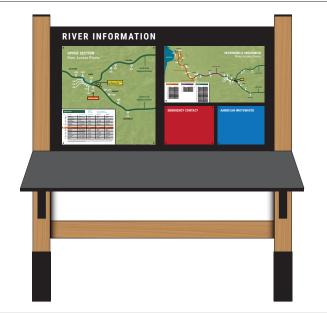


Upper Clackamas River, OR

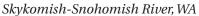
# **River Information Kiosk - Structure Examples**

Below are examples of various river information kiosk structures. The shapes, sizes, and designs can vary depending on existing signage standards, cost, brand, etc. The materials typically used are either wood or metal based on the availability of costs and the environment the signs are to be located. Land managers are responsible for determining their own design of the structures. The structures shown below are provided as references to help land managers develop their structures.





Upper Clackamas River, OR





Deschutes River, OR



Grand Canyon, AZ

# **River Information Kiosk - Structure Examples (Continued)**



Umpqua River, OR



Nantahala National Forest, NC

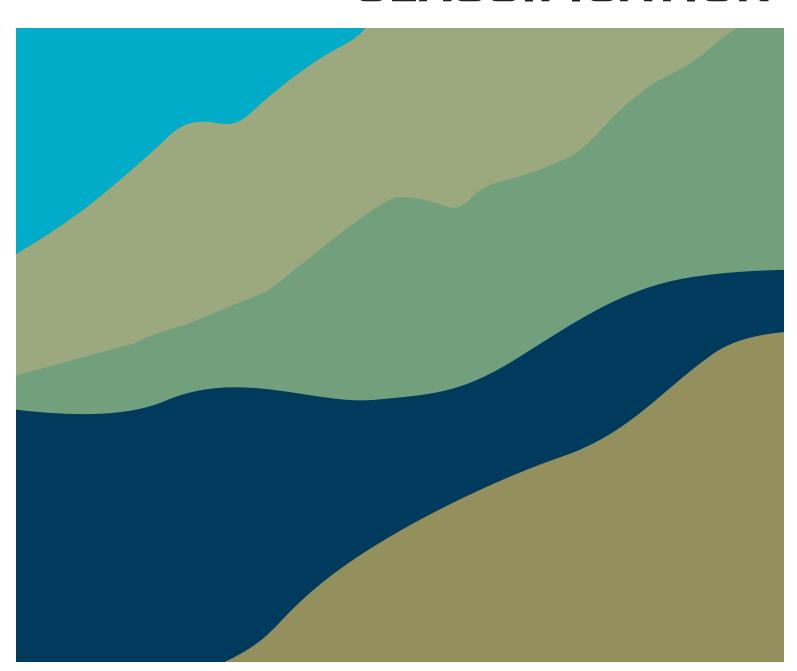


Middle Fork of the Snoqualmie River, WA



Schuykill River, PA

# RIVER RAPID CLASSIFICATION



# **River Rapid Classification - Messages**

In each of the class sections we have included a "Skill Level" to help visitors understand if they are capable of navigating a certain section of the river. If visitors are unsure of their skill level we have also included a description of the class and an image to show what a certain section of that river may look like. The photos will need to be updated based on that region/location of the United States the signs are located. By recommending the skill level and explaining the difficulty of the river through text and images, it will visually inform visitors about the dangers of the river.

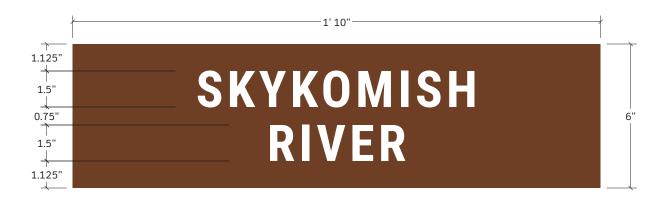
	River Rapid Classification		
	Message	Picture	
	Class I	Image should reflect Class I rapids and	
	Skill Level: Beginner	location/environment of the river.	
	River Environment: Very easy with small, regular waves and riffles.		
	Recommended Craft: Suitable for a wide variety of craft.		
White			
	Class II	Image should reflect Class II rapids and location/environment of the river.	
	Skill Level: Novice	tocation/environment of the river.	
	River Environment: Easy with rapids and waves requiring some maneuvering.		
Pantone 349	Recommended Craft: Suitable for a wide variety of river-specific craft.		
	Class III	Image should reflect Class III rapids	
	Skill Level: Intermediate	and location/environment of the river.	
	River Environment: Moderate difficulty with large waves and features requiring skilled maneuvering.		
Pantone 301	Recommended Craft: Suitable only for whitewater-specific craft and equipment.		
	Class IV	Image should reflect Class IV rapids	
	Skill Level: Advanced	and location/environment of the river.	
	River Environment: Difficult with powerful rapids and hazardous features requiring precise maneuvering.		
Black	Recommended Craft: Suitable for skilled groups with whitewater- specific craft and equipment.		
	Class V	Image should reflect Class V rapids and	
	Skill Level: Expert	location/environment of the river.	
Pantone 7620	River Environment: Very difficult with long rapids and strong turbulence and features that require expert maneuvering around frequent obstacles. Near the limits of navigation.		
	Recommended Craft: Suitable for highly-skilled groups with whitewater-specific craft and equipment.		
_	Class VI	Warning symbol should be used in	
	Unknown navigability, may not be passable, extremely dangerous.	place of image for all Class VI rapids.	
Pantone 158			

## **River Rapid Classification - Signage Panel Guidelines**

Below is a description of the sign panels that can be used to identify the river rapid classification system. The items below include a description for when to use the different sign panels, panel  $\theta$  type dimensions, and font.

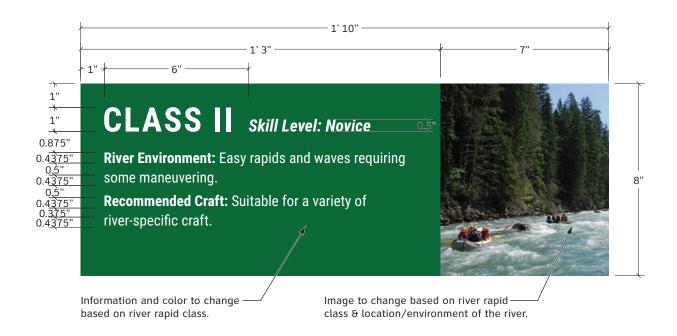
#### **River Identification Panel**

This sign panel is used to identify the specific river the sign is located on. This panel should be located at the top of the sign, above the river rapid classification panel.



#### **River Rapid Classification Panel**

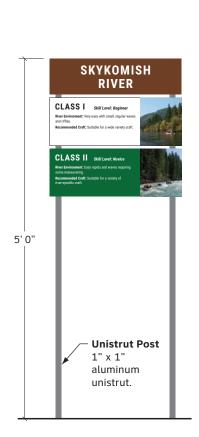
This sign panel identifies the individual rapid class found on the specific river. The class information, color, and image should change depending on the class that is being identified. The image of the class should change to closely resemble the location and environment of the river.

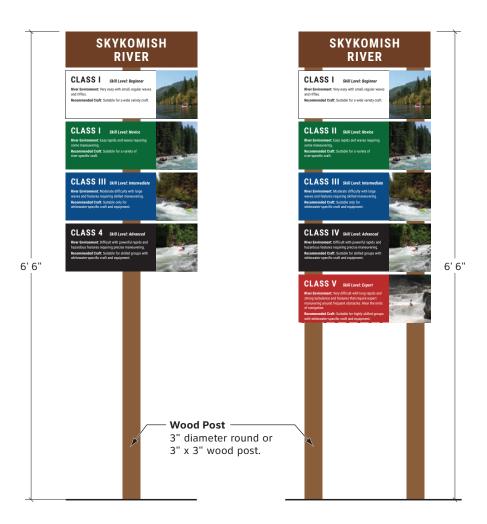


#### **River Rapid Classification - Signage Structures**

The design of this sign structure is intended to be simple and focus the visitor on the content regarding the river difficulty or class. The structures should vary depending on the specific river and rapid class the sign is located on. If a specific class does not exist on that river, the sign panel describing that class should not be included on the structure.

For rivers with four or fewer classes, we recommend using two aluminum unistruts or a single wood post (square or round). The panels should be front drilled into the posts with metal fasteners. For rivers with five or more classes, we recommend two wood posts (square or round) for greater stability of the panels. Below are recommended heights for the sign panels and structures. The heights of the structures can change based on where they are located in the environment and if there are any obstructions that impact the visibility of the sign panels.





# DAMS, PORTAGE ROUTES, & HYDRAULICS



## **Dams, Portage Routes, Hydraulics - Explanation**

Signage for dams, portage routes, and hydraulics will provide visitors with vital safety information when they are in the river and let them know when and where to exit. Properly signing and using consistent shapes and colors about the items or events in the river will improve user awareness and reduce the number of injuries and deaths.

#### **Color & Graphics Standards**

In information graphics, the color orange is commonly used for warning signs. Organizations that use orange for warning messages include the Department of Transportation (DOT), American National Standards Institute (ANSI), and the International Organization for Standardization (ISO). These organizations also associate the diamond shape with warning messages. The color orange and diamond shape can be combined to reinforce the idea of and upcoming warning. Since orange is used for more severe warnings, we recommend using it for warning messages associated with dams, portage routes, and hydraulics. The messages are also typically for users on the river and will be more noticeable than the yellow signage.













Examples of warning colors and graphics

# **Dams, Portage Routes, Hydraulics - Messages**

Below is a list of dam, portage routes, and hydraulics messages and their associated symbols. Some messages are better expressed simply through words and do not have a pictogram. The pictograms are designed to be consistent with traditional international and NPS symbols to create visual consistency.

Message	Pictogram
Dam	
Warning: Dam (insert distance) ahead. Keep away!	
Warning: Dam (insert distance) ahead. Use portage route on river (left or right).	

Low-Head Dam	
Warning: Low-head dam (insert distance) ahead. Use portage route on river (left or right).	
Warning: Low-head dam ahead can result in injury or death. Keep away!	
Warning: Low-head dam ahead with hydraulics below that can result in injury or death. Keep away!	

# **Hydraulics** Warning: Hydraulics ahead can result in injury or death. Keep away! Warning: Hydraulics (insert distance) ahead that can result in injury or death. Keep away!

Dam Water Release	•
Warning: Dam release causes water levels to rapidly rise in this area. Keep Away!	<b>A</b>
Warning: Dam release causes water levels to rapidly rise in this area without warning. Keep Away!	
Warning: Dam release causes water levels to rapidly rise in this area. Check the dam release schedule at: (Insert website or QR)	<u> </u>
Warning: Siren indicates dam relase in this area which can cause serious injury or death. Keep Away!	

Portage Routes	
Use portage route on river (left or right).	
Dam ahead. Use portage route on river (left or right).	الإلايا
Dangerous rapids and hazards ahead. Use portage route on river (left or right).	
Stay on trail.	

# **Dams, Portage Routes, Hydraulics - Symbols**

Below are examples of the dam, portage routes, and hydraulics symbols used within the warning triangle shape/ panel.



Dam & Low-Head Dam



**Dam Water Release** 



Hydraulics



**Portage Route** 

# **Low-Head Dam - Illustration Examples**

Below are examples of illustrations used to illustrate the dangers of low-head dams and hydraulics when land managers are looking to educate and inform visitors more about its dangers. Land managers are responsible for creating their own illustrations. The illustrations shown below are only provided as references to help land managers develop their designs. It is the land manager's responsibility to determine and evaluate the final information included on their illustrations. The illustrations and information provided should be simple and not overwhelm users with too much information and graphics.





Example 2



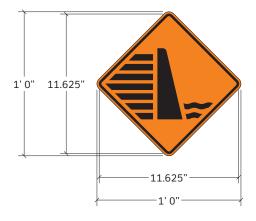
Example 1 Example 3

# Dams, Portage Routes, Hydraulics - Signage Panel Guidelines

Below is a description of the guidelines for the different sign panels that can be used to identify the various dam, portage routes, and hydraulics messages and icons. The items below include a description for when to use the different sign panels, panel and type dimensions, and font. All panels are colored orange to create a connected and cohesive system that relate to each other. For example the portage route identification sign is intended to connect with the warning sign on the river.

### **Single Message Sign Panel: Symbol Only**

This sign panel identifies one symbol with no additional text. This panel should be used for areas that need to be quickly and simply identified.



### **Single Message Sign Panel: Symbol with Text**

This sign panel identifies one message with additional text support. This panel should be used for areas that need additional explanation along with the standard warning/exclamation symbol. It can also be combined with unique symbols if additional text is needed for visitors. Foreign languages can also be used on this panel.



### **Dam Release Message Sign Panel: Pictures with Text**

This sign panel identifies one message with additional text support. This panel should be used for areas that need additional explanation along with the images. Foreign languages can also be used on this panel.



### **Multiple Message Sign Panels: Symbol with Text**

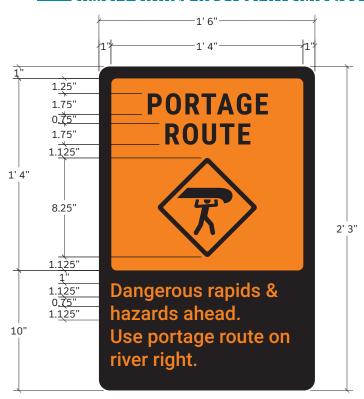
These sign panels identify multiple messages with additional text support. The sign panels are stacked and each panel identifies a message. Foreign languages can also be used on these panels.



### DAMS. PORTAGE ROUTES. HYDRAULICS

### **Portage Route Panel: Symbol with Text**

This sign panel identifies a portage route message with additional text support. This panel should be used for portage routes that need additional explanation along with the symbol. Foreign languages can also be used on this panel. The color and design of the portage route signs relate to the other warning signs to show their importance and connection to the warnings.



### **Portage Route Trail Identification Sign Panel: Symbols with Text**

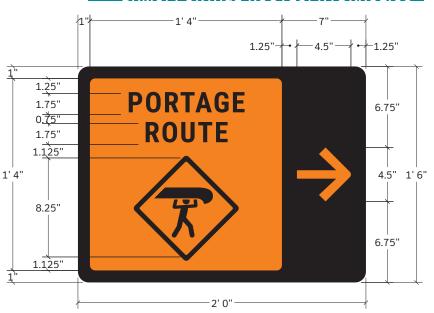
This sign panel identifies the portage route along the trail, to the river, with additional text support. This panel should be used along the portage routes to help guide users along the trails and keep them off private property. Foreign languages can also be used on this panel. The color and design of the portage route signs relate to the other warning signs to show their importance and connection to the warnings.



### DAMS, PORTAGE ROUTES, HYDRAULICS

### **Portage Route Directional Sign Panel:**

This sign panel directs users on the river where to enter the portage route with additional text support. This panel should be placed near the entrance to the portage route. The directional arrow should be located on the side that is facing toward the land. The color and design of the portage route signs relate to the other warning signs to show their importance and connection to the warnings.





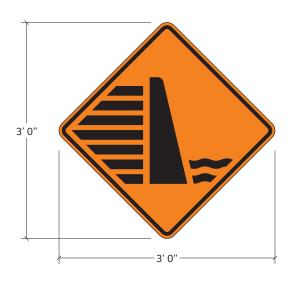
# **Dams, Portage Routes, Hydraulics - Signage Panel Guidelines**

Below are multiple panel sizes that can be used for each of the different sign panels. The size of the panel should chosen based on the location and visibility of the sign panel in the environment. Place warning signs for low-head dam structures upstream of the structure with a message indicating the distance between the sign and structure (i.e. Low-Head Dam 1000 ft ahead. Use portage route). Ideally two or more signs are placed at intervals to indicate the decreasing distance to the dam structure as a user moves downstream. Placement of multiple signs may require the collaboration of land managers with other landowners.

### **Single Message Sign Panel: Symbol Only**







### Single Message Sign Panel: Symbol with Text







### **Multiple Message Sign Panels: Symbol with Text**







### **Portage Route Sign Panel: Symbol with Text**





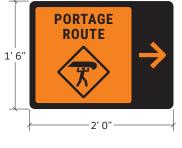


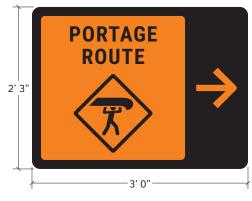
### Portage Route Trail Identification Sign Panel: Symbols with Text

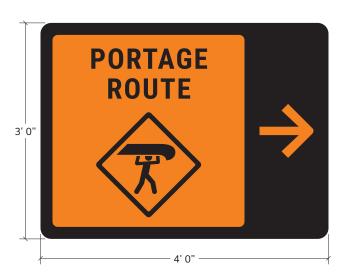




### **Portage Route Directional Sign Panel**

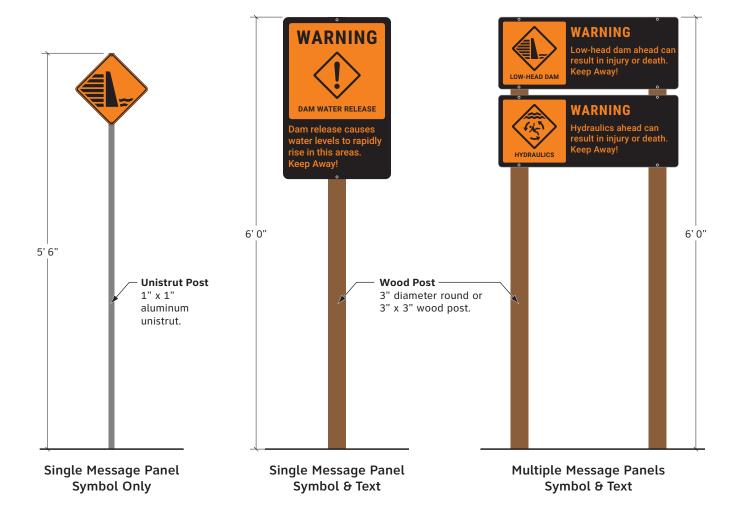




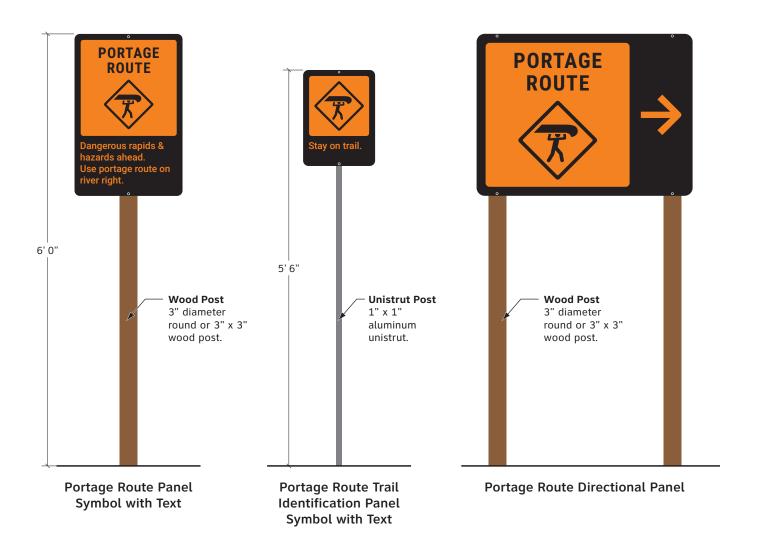


# **Dams, Portage Routes, Hydraulics - Signage Structures**

Below are several examples of sign structures that can be used to hold the different sign panels. For the single message sign panels, we recommend using either a single aluminum unistrut or wood post (square or round). The panels should be front drilled into the posts with metal fasteners. We recommend the multiple message panels use two aluminum unistruts or wood posts (square or round) for greater stability of the multiple panels. Below are recommended heights for the sign panels and structures. The heights of the structures can change based on where they are located in the environment and if there are any obstructions that impact the visibility of the sign panels.



# Dams, Portage Routes, Hydraulics - Signage Structures (Cont.)



# **EQUIPMENT**



## **Equipment - Explanation**

Demonstrating proper equipment signage on rivers can help educated visitors on what items should and should not be used on the river. Properly signing for the correct equipment to use on the rivers will improve user awareness and reduce the amount of injuries and deaths that occur.

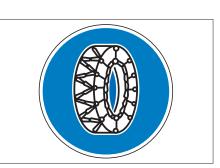
### Color & Graphics Standards

In information graphics, the color blue is commonly used for mandatory actions or items. Organizations that use blue for mandatory actions or items include the Department of Transportation (DOT), American National Standards Institute (ANSI), and the International Organization for Standardization (ISO). Since the color blue is lower on the severity scale, the equipment messages will not take priority over the caution or warning signs.

For items that are not allowed on the river we are using a circle shape with the commonly used red slash/circle. We recommend using this because people associate with this shape and color with items that are not allowed.



















Examples of equipment colors and graphics

# **Equipment - Messages**

Below is a list of equipment messages and their associated symbols. In instances where pictograms don't exist some messages are better expressed simply through words and do not have a pictogram. The pictograms are designed to be consistent with traditional international and NPS symbols to create visual consistency.

Message	Pictogram
Attire	
Be Prepared. Wear protective clothing, helmet, and foot gear.	
Weather and water conditions change quickly. Wear appropriate gear to prevent injury, hypothermia, or death.	
Wear helmets, life jackets, appropriate footwear, and other protective clothing.	

### First Aid

Be Prepared. Bring a first aid kit. Be equipped with a first aid kit.



### **Sound Device**

Be Prepared. Bring a sound producing device. Be equipped with a sound sproducing device.



Message	Pictogram
Paddle / Oar	
Be Prepared. Bring a spare paddle/oar. Be equipped with a spare paddle/oar.	
Throw Bag	
Be Prepared. Bring a throw bag.	
Be equipped with a throw bag.	
Motorboats Motorboats Allowed	
- Piotorboats Attowed	
No Motorboats	
No Motorboats	
Davis and Wet averages	
Personal Watercrafts  Jet Skis or Personal Watercrafts Allowed	
Rowboats	
Rowboats Allowed	

Message	Pictogram
River Rafts	
River Rafts Allowed	
Canoes	
Canoes Allowed	
Kayaks	
Kayaks Allowed	
Paddle Boards	
Paddle Boards Allowed	
Padule Boards Allowed	
Wear a life jacket and use a quick-release leash with waist belt.	
Tubing & Similar Flotation Devices	
Tubing Allowed	
No Tubing & Similar Flotation Devices	
No Tubing. Watercraft for a river environment are required. Inner tubes, air mattresses, and similar	

Watercraft for a river environment are required. Inner tubes, air mattresses, and similar flotation devices are prohibited.



# **Equipment - Symbols**

Below are examples of the equipment symbols used within the square shape/panel.



Life Jacket



Helmet



**Protective Clothing** 



**Appropriate Footwear** 



First Aid



**Sound Device** 



Spare Paddle/Oar



**Throw Bag** 



Motorboats



**Personal Watercrafts** 



**Rowboats** 



**River Rafts** 



Canoes



Kayaks



**Tubing** 



**Paddle Boards** 

# **Equipment - Symbols**

Below are examples of the equipment symbols used within the circle shape/panel.





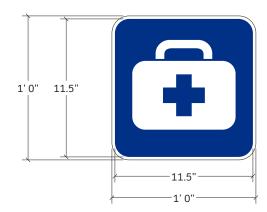
**No Tubing** 

# **Equipment - Signage Panel Guidelines**

Below is a description of the guidelines for the different sign panels that can be used to identify the various equipment messages and icons. The items below include a description for when to use the different sign panels, panel and type dimensions, and font.

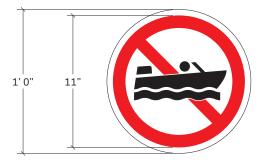
### **Single Message Sign Panel: Symbol Only**

This sign panel identifies one equipment message with no additional text. This panel should be used for equipment areas that need to be quickly and simply identified.



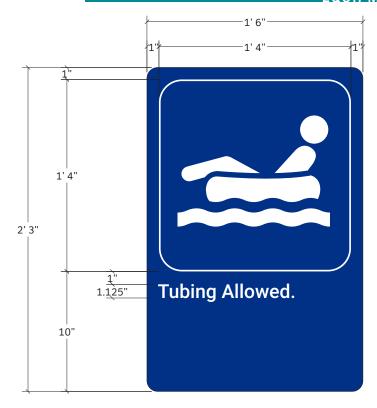
### **Single Message Sign Panel: Symbol Only (NOT ALLOWED)**

This sign panel identifies one equipment message with no additional text. This panel should be used for equipment areas that need to be quickly and simply identified.



### **Single Message Sign Panel: Symbol with Text**

This sign panel identifies one equipment message with additional text support. This panel should be used for areas that need additional explanation along with the symbol. Foreign languages can also be used on this panel.



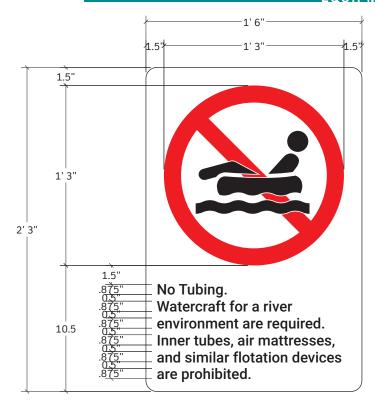
### **Single Message Sign Panel: Symbols with Text**

This sign panel identifies one equipment message with multiple symbols and additional text support. This panel should be used for areas that need additional explanation along with the symbols. Foreign languages can also be used on this panel.



### **Single Message Sign Panel: Symbol with Text (NOT ALLOWED)**

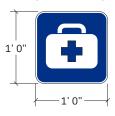
This sign panel identifies one equipment message with additional text support. This panel should be used for areas that need additional explanation along with the symbol. Foreign languages can also be used on this panel.

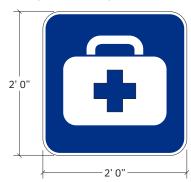


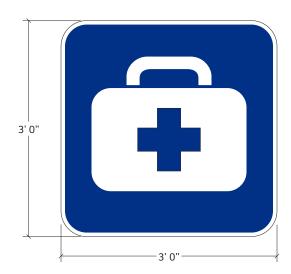
# **Equipment - Signage Panel Guidelines**

Below are multiple panel sizes that can be used for each of the different sign panels. The size of the panel should chosen based on the location and visibility of the sign panel in the environment.

### **Single Message Sign Panel: Symbol Only**







### Single Message Sign Panel: Symbol(s) with Text





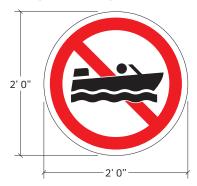


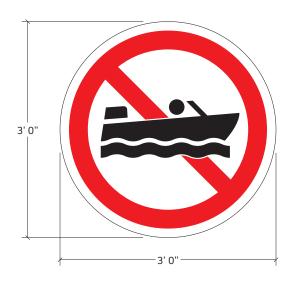
# **Equipment - Signage Panel Guidelines**

Below are multiple panel sizes that can be used for each of the different sign panels. The size of the panel should chosen based on the location and visibility of the sign panel in the environment.

### **Single Message Sign Panel: Symbol Only**







### Single Message Sign Panel: Symbol(s) with Text

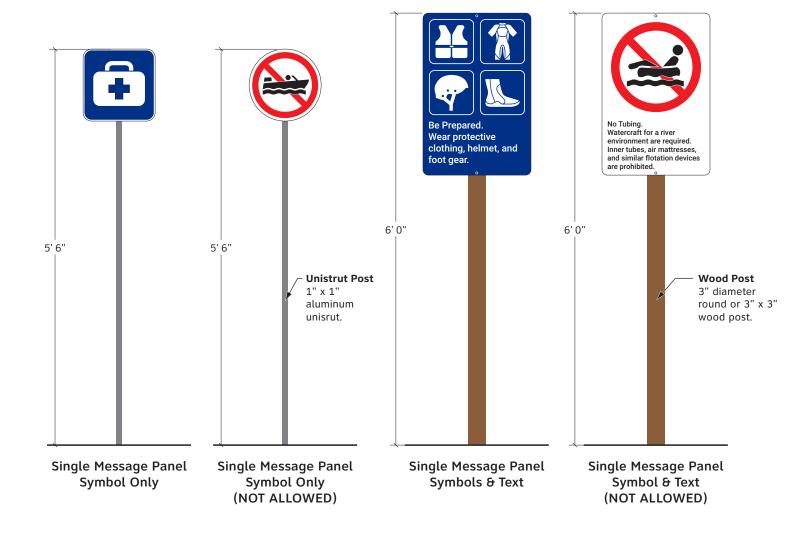






# **Equipment - Signage Structures**

Below are several examples of sign structures that can be used to hold the different sign panels. For the single message sign panels, we recommend using either a single aluminum unistrut or wood post (square or round). The panels should be front drilled into the posts with metal fasteners. We recommend the multiple message panels use two aluminum unistruts or wood posts (square or round) for greater stability of the multiple panels. Below are recommended heights for the sign panels and structures. The heights of the structures can change based where they are located in the environment and if there are any obstructions that impact the visibility of the sign panels.





## **General River Use & Guidelines - Explanation**

Providing general river use signage at river access sites and different locations along the river can help visitors become aware of the general river practices and quidelines each river follows. Since the activities of each river can be different, the following pages contain the most common river uses and guidelines found in different rivers across the country.

### **Color & Graphics Standards**

In information graphics, the color brown is commonly used for recreation activities or destinations. Organizations that use brown for recreation activities or destinations include the Department of Transportation (DOT) and the National Park Service (NPS). The general river use messages will not take priority over the caution or warning signs. General river use messages for boat launch and specific river activities will use the brown color.

For items that are not allowed on the river, we are using a circle shape with the commonly used red slash/circle. We recommend using this because people associate with this shape and color with items that are not allowed.

The color and shape of the "Clean, Drain, Dry" messages relates to the "Stop Aquatic Hitchhikers!" campaign that is used across the county.



















Examples of general river use colors and graphics

# **General River Use & Guidelines - Messages**

Below are a list of general river use messages and symbols. In instances where pictograms don't exist some messages are better expressed simply through words and do not have a pictogram. The pictograms are designed to be consistent with traditional international and NPS symbols to create visual consistency.

Message **Pictogram** 

### Clean, Drain, Dry

Clean. Drain. Dry. Stop the spread of invasive species.

### Non-Motorized:

Clean: Remove plants, animals, and mud from your boat or watercraft.

Drain: Drain water from boat or watercraft at the boat launch. Dry: Dry your boat or watercraft and all equipment completely.

Stop the spread of invasive species.

### Motorized:

Clean: Remove plants, animals, and mud from your boat.

Drain: Drain water from bilge, live wells, and ballast tanks at boat launch.

Dry: Dry your boat, trailer, and all equipment completely

Stop the spread of invasive species.



Please see below for images that can be used instead of the above symbol.

### **Non-Motorized Images**



Clean



Drain



Dry

### **Motorized Images**



Clean



Drain



Dry

Message	Pictogram
Motorized Boat Launch Identification	<u>'</u>
Motorized Boat Launch	
Hand Launch/Small Boat Launch Identification	
Hand Launch/Small Boat Launch	
Raft Launch Identification	
Raft Launch	
nait Edulieli	
Boat Trailer Parking	
Boat Trailer Parking	
No Davking in Londing Zono	'
No Parking in Loading Zone No Parking: Loading Zone Only	
Ho Farking, Louding Zone Only	
No Parking: Beyond This Point	B
No Alcohol or Drugs	
No Alcohol or Drugs	
- · · · <b>J</b> ·	
No Glass, Alcohol, or Drugs	

Message	Pictogram
Campground/Campsite Area	
Only use designated campsites.	A
No Camping	
No Camping	
Picnic Area	
Only use designated picnic & rest areas.	A
No Picnics	
No Picnics	A
Campfire Allowed	
Only use designated campfire areas.	
No Campfires	
No Campfires	

Message	Pictogram
Fishing Area	
Fishing allowed.	
Boaters avoid anglers and designated fishing areas.	
No Fishing	
No Fishing	
Trash (Pack It In, Pack It Out)	
Pack it in, Pack it out. Carry out all trash.	
Do Not Enter Private Property	
Private Property: Do Not Enter	
Private Property: Do Not Enter Private Property Along the River	
No Swimming	
No Swimming	
No Wading	
No Wading	

# **General River Use & Guidelines - Symbols**

Below are examples of the general river use & guideline symbols used within the square shape/panel.



**Motorized Boat Launch** 



Hand Launch/ **Small Boat Launch** 



Raft Launch



**Boat Trailer Parking** 



Campground/ Campsite



Picnic Area



Campfire



Fishing Area



Pack It In, Pack It Out

# **General River Use & Guidelines - Symbols**

Below are examples of the general river use & guideline symbols used within the octagon and circle shape/panel.



Clean, Drain, Dry



No Parking



No Alcohol or Drugs



**No Camping** 



**No Picnics** 



No Campfires



No Fishing



No People Allowed



No Swimming



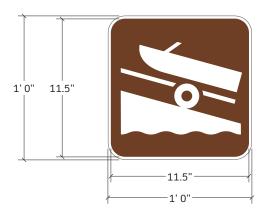
No Wading

# **General River Use & Guidelines - Signage Panel Guidelines**

Below is a description of the guidelines for the different sign panels that can be used to identify the various general river use and quideline messages and icons. The items below include a description for when to use the different sign panels, panel and type dimensions, and font.

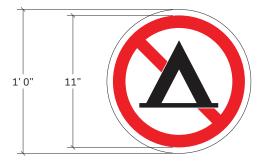
### **Single Message Sign Panel: Symbol Only**

This sign panel identifies one message with no additional text. This panel should be used for areas that need to be quickly and simply identified.



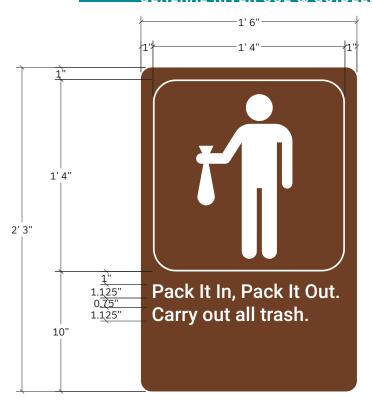
### **Single Message Sign Panel: Symbol Only (NOT ALLOWED)**

This sign panel identifies one message with no additional text. This panel should be used for areas that need to be quickly and simply identified.



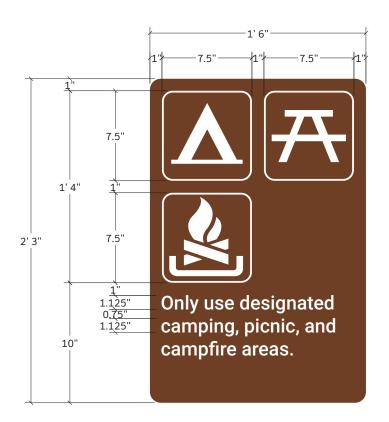
### **Single Message Sign Panel: Symbol & Text**

This sign panel identifies one message with additional text support. This panel should be used for areas that need additional explanation along with the symbol. Foreign languages can also be used on this panel.



### **Multiple Messages Sign Panel: Symbols & Text**

This sign panel identifies multiple messages with multiple symbols and additional text support. This panel should be used for areas that need additional explanation along with the symbols. Foreign languages can also be used on this panel.



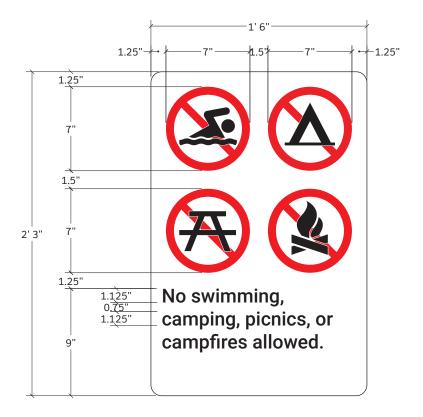
### **Single Message Sign Panel: Symbol & Text (NOT ALLOWED)**

This sign panel identifies one message with additional text support. This panel should be used for areas that need additional explanation along with the symbol. Foreign languages can also be used on this panel.



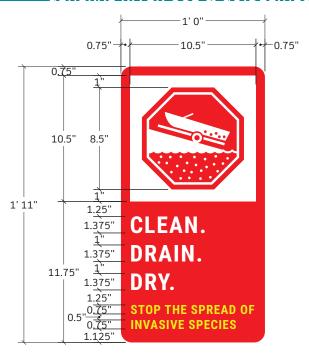
### **Single Message Sign Panel: Symbols & Text (NOT ALLOWED)**

This sign panel identifies multiple messages with multiple symbols and additional text support. This panel should be used for areas that need additional explanation along with the symbols. Foreign languages can also be used on this panel.



### Clean, Drain, Dry Sign Panel (No Pictures): **Symbol & Text**

This sign panel identifies the message with one symbol and additional text support. Foreign languages can also be used on this panel.



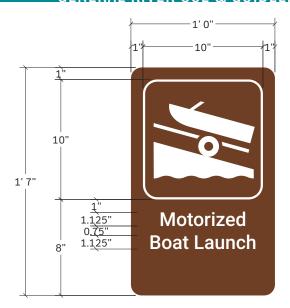
### Clean, Drain, Dry Sign **Panel: Pictures & Text**

This sign panel identifies the message with three pictures and additional text support. Foreign languages can also be used on this panel.



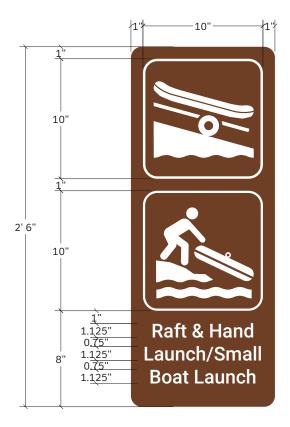
### **Single Boat Launch Sign Panel: Symbol & Text**

This sign panel identifies a single boat launch with a symbol and additional text support. This panel should be used for areas that need additional explanation along with the symbol. Foreign languages can also be used on this panel.



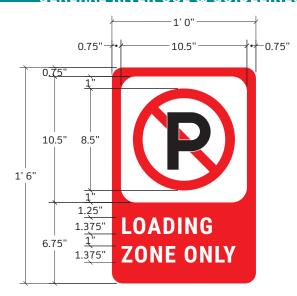
### **Multiple Boat Launch Sign Panel: Symbols & Text**

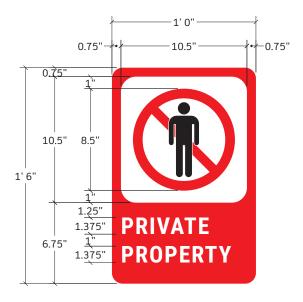
This sign panel identifies multiple boat launches with multiple symbols and additional text support. This panel should be used for areas that need additional explanation along with the symbols. Foreign languages can also be used on this panel.



### **Single Message Sign Panel:** Symbol & Text (NOT ALLOWED)

This sign panel identifies one message with additional text support. This panel should be used for areas that need additional explanation along with the symbol. Foreign languages can also be used on this panel.





### **Single Message Sign Panel: Text Only (NOT ALLOWED)**

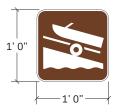
This sign panel identifies one message with only text. This panel should be used for areas that need additional explanation. Foreign languages can also be used on this panel.

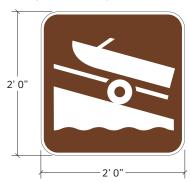


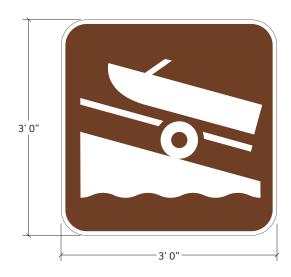
# **General River Use & Guidelines - Signage Panel Guidelines**

Below are multiple panel sizes that can be used for each of the different sign panels. The size of the panel should be chosen based on the location and visibility of the sign panel in the environment.

### **Single Message Sign Panel: Symbol Only**







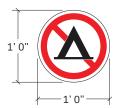
### Single Message Sign Panel: Symbol(s) & Text

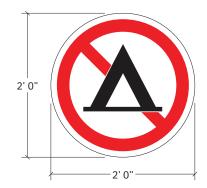


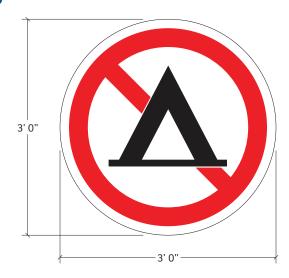




### Single Message Sign Panel: Symbol Only (NOT ALLOWED)







### Multiple Message Sign Panel: Symbol(s) & Text (NOT ALLOWED)







### Clean, Drain, Dry Sign Panel: Symbol with Text







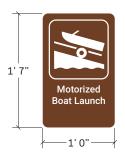
### Clean, Drain, Dry Sign Panel: Pictures with Text

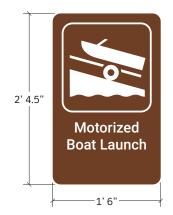






### Single Boat Launch Sign Panel: Symbol & Text







### **Multiple Boat Launch Sign Panel: Symbols & Text**







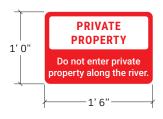
### **Single Message Sign Panel: Symbol with Text (NOT ALLOWED)**







### **Single Message Sign Panel: Text Only (NOT ALLOWED)**







# **General River Use & Guidelines - Signage Structures**

Below are several examples of sign structures that can be used to hold the different sign panels. For the single message sign panels, we recommend using either a single aluminum unistrut or wood post (square or round). The panels should be front drilled into the posts with metal fasteners. We recommend the multiple message panels use two aluminum unistruts or wood posts (square or round) for greater stability of the multiple panels. Below are recommended heights for the sign panels and structures. The heights of the structures can change based on where they are located in the environment and if there are any obstructions that impact the visibility of the sign panels.

